

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Saleem, Syed (ASRC)

Timestamp: [year=2010; month=5; day=18; hr=12; min=25; sec=58; ms=514;]

=====

Application No: 10528748 Version No: 4.0

Input Set:

Output Set:

Started: 2010-05-12 17:26:11.374
 Finished: 2010-05-12 17:26:14.762
 Elapsed: 0 hr(s) 0 min(s) 3 sec(s) 388 ms
 Total Warnings: 29
 Total Errors: 0
 No. of SeqIDs Defined: 41
 Actual SeqID Count: 41

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)
W 213	Artificial or Unknown found in <213> in SEQ ID (21)
W 213	Artificial or Unknown found in <213> in SEQ ID (22)
W 213	Artificial or Unknown found in <213> in SEQ ID (23)
W 213	Artificial or Unknown found in <213> in SEQ ID (24)
W 213	Artificial or Unknown found in <213> in SEQ ID (25)
W 213	Artificial or Unknown found in <213> in SEQ ID (26)
W 213	Artificial or Unknown found in <213> in SEQ ID (27)
W 213	Artificial or Unknown found in <213> in SEQ ID (28)
W 213	Artificial or Unknown found in <213> in SEQ ID (29)
W 213	Artificial or Unknown found in <213> in SEQ ID (30)
W 213	Artificial or Unknown found in <213> in SEQ ID (31)

Input Set:

Output Set:

Started: 2010-05-12 17:26:11.374
Finished: 2010-05-12 17:26:14.762
Elapsed: 0 hr(s) 0 min(s) 3 sec(s) 388 ms
Total Warnings: 29
Total Errors: 0
No. of SeqIDs Defined: 41
Actual SeqID Count: 41

Error code

Error Description

This error has occurred more than 20 times, will not be displayed

SEQUENCE LISTING

<110> Mologen Forschungs-, Entwicklungs- und Vertriebs GmbH

<120> VACCINE AGAINST ONCOVIRUS INFECTIONS SUCH AS INFECTIONS BY FELINE
LEUKOSIS VIRUS OF THE CAT

<130> 80512US

<140> 10528748

<141> 2006-03-13

<150> DE 102 44 863.9

<151> 2002-09-23

<160> 41

<170> PatentIn version 3.5

<210> 1

<211> 1929

<212> DNA

<213> Feline leukemia virus

<220>

<221> gene

<222> (1)..(1929)

<223> DNA sequence wild type "env" gene without signal peptide coding
region

<300>

<308> NCBI M12500

<309> 2001-02-21

<313> (162)..(1990)

<400> 1

atggaaagtc caacgcaccc aaaaccctct aaagataaga ctctctcgtg gaacttagcg	60
tttctggtgg ggatcttatt tacaatagac ataggaatgg ccaatcctag tccacaccaa	120
atatataatg taacttggtt aataaccaat gtacaaacta acaccaagc taacgccacc	180
tctatgttag gaaccttaac cgatgcctac cctaccctac atgttgactt atgtgaccta	240
gtgggagaca cctgggaacc tatagtccta aaccaacca atgtaaaaca cggggcacgt	300
tactctcct caaaatatgg atgtaaaact acagatagaa aaaaacagca acagacatac	360
cccttttacg tctgccccgg acatgcccc tctgtggggc caaagggaac acattgtgga	420
ggggcacaag atgggttttg tgccgcatgg ggatgtgaga ccaccggaga agcttggtgg	480
aagccacct cctcatggga ctatatacaca gtaaaaagag ggagtagtca ggacaatagc	540
tgtgagggaa aatgcaaccc cctgggtttg cagttcacc cagaagggaag acaagcctct	600

tgggacggac ctaagatgtg gggattgcga ctataccgta caggatatga ccctatcgct	660
ttattcacgg tgtcccgga ggtatcaacc attacgccgc ctcaggcaat gggaccaaac	720
ctagtcttac ctgatcaaaa acccccatcc cgacaatctc aaacagggtc caaagtggcg	780
accagaggc cccaaacgaa tgaaagcgcc ccaaggtctg ttgccccac caccatgggt	840
cccaaacgga ttgggaccgg agatagggtta ataaatttag tacaagggaac atacctagcc	900
ttaaagtcca ccgaccccaa caaaactaaa gactgttggc tctgcctggg ttctcgacca	960
ccctattacg aagggtattgc aatcttaggt aactacagca accaaacaaa cccccccca	1020
tctgcctat ctactccgca acacaaacta actatatctg aagtatcagg gcaaggaatg	1080
tgcataggga ctgttcctaa aaccaccag gctttgtgca ataagacaca acagggacat	1140
acaggggagc actatctagc ccccccaac ggcacctatt gggcctgtaa cactggactc	1200
accccatgca ttccatggc ggtgctcaat tggacctctg atttttgtgt cttaatcgaa	1260
ttatggccca gagtgactta ccatcaacc gaatatgtgt acacacattt tgccaaagct	1320
gtcagggtcc gaagagaacc aatatcacta acggttgccc ttatgttggg aggacttact	1380
gtagggggca tagccgagg ggtcggaaca gggactaaag ccctccttga aacagcccag	1440
ttcagacaac tacaaatggc catgcacaca gacatccagg ccctagaaga atcaattagt	1500
gccttagaaa agtccttgac ctccctttct gaagtagtct tacaaaacag acggggccta	1560
gatattctat tcttacaaga gggagggctc tgtgccgcat tgaaagaaga atgttgcttc	1620
tatgcggatc acaccggact cgtccgagac aatatggcca aattaagaga aagactaaaa	1680
cagcggcaac aactgtttga ctcccaacag ggatggtttg aaggatgggt caacaagtcc	1740
ccctggttta caaccctaatt ttctccatt atggggccct tactaatcct actcctaatt	1800
ctctcttcg gccatgcat ccttaaccga ttagtacaat tcgtaaaaga cagaatatct	1860
gtggtacagg cttaattttt aaccaacag taccaacaga taaagcaata cgatccggac	1920
cgaccatga	1929

<210> 2
 <211> 1527
 <212> DNA
 <213> Feline leukemia virus

<220>
 <221> gene
 <222> (1)..(1527)

<223> DNA sequence wild type "gag" gene

<400> 2

atgggccaaa ctataactac ccccttgagc ctcaccctca accactggtc tgaggttcag	60
gcacggggccc gtaatcaggg tgtcgaagtc cggaaaaaga aatggattac actgtgtgaa	120
gccgaatggg taatgatgaa tgtaggttg ccccgagaag gaactttcac cattgacaat	180
atttcacagg tcgaggagag aatcttcgcc ccggggccat atggacaccc agatcaaatac	240
ccttatatta ccacgtggag atccctagcc acagaccccc ctccatgggt tcgcccattc	300
ctacccccctc ctaagcatcc caggacagat cctcccagac ctctttcgcc gcaacctctt	360
gcgcgcgaac cctcttcccc ccaccccgtc ctctaccccg ttctcccca accagacccc	420
cccaaggcgc ctgtattacc acccaatcct tcttccccct taattgatct cttaacagaa	480
gagccacctc cctatcctgg gggtcacggg ccaacaccgc cgtcaggccc tagaaccca	540
actgcctccc cgattgccat ccggctgcga gaacgacgag aaaatccagc tgagaaatct	600
caagccctcc ccttaaggga agacccaaac aacagacccc agtactggcc attctcggcc	660
tctgacctgt acaattggaa attgcataac ccccttttct ccagagaccc agtggcccta	720
actaacctaa ttgagtccat tttagtgaca catcagccaa cctgggacga ctgccaacag	780
ctcttacagg ctctcctgac ggcagaggag agacaaaggg tcctccttga agcccgaag	840
caagttccag gcgaggacgg acggccaacc cagctgccca atgtcgttga cgaggctttc	900
cccttgaccc gtcccaactg ggatttttgt acgcccggcag gtagggagca cctacgcctt	960
tatcgccagt tgctgttagc ggggctccgc ggggctgcaa gacgccccac taatttgca	1020
caggtaaagc aagttgtaca agggaaagag gaaacgccag cctcattctt agaaagatta	1080
aaagaggctt acagaatgta tactccctat gaccctgagg acccagggea ggctgctagt	1140
gttatcctgt cctttatcta ccagtctagc ccggacataa gaaataagtt acaaaggcta	1200
gaaggcctac aggggttcac actgtctgat ttgctaaaag aggcagaaaa gatatacaac	1260
aaaagggaaa cccagagga aagggaagaa agattatggc agcggcagga agaaagagat	1320
aaaaagcgcc ataaggagat gactaaagtt ctggccacag tagttgctca gaatagagat	1380
aaggatagag gggaaagtaa actgggagat caaaggaaaa tacctctggg gaaagaccag	1440
tgtgcctatt gcaaggaaaa gggacattgg gttcgcgatt gcccgaaacg accccggaag	1500
aaaccgcga actccactct cctctaa	1527

<210> 3

<211> 642
<212> PRT
<213> Feline leukemia virus

<220>
<221> PEPTIDE
<222> (1)..(447)
<223> Amino acid sequence of the protein corresponding to Seq.ID1

<400> 3

Met Glu Ser Pro Thr His Pro Lys Pro Ser Lys Asp Lys Thr Leu Ser
1 5 10 15

Trp Asn Leu Ala Phe Leu Val Gly Ile Leu Phe Thr Ile Asp Ile Gly
20 25 30

Met Ala Asn Pro Ser Pro His Gln Ile Tyr Asn Val Thr Trp Val Ile
35 40 45

Thr Asn Val Gln Thr Asn Thr Gln Ala Asn Ala Thr Ser Met Leu Gly
50 55 60

Thr Leu Thr Asp Ala Tyr Pro Thr Leu His Val Asp Leu Cys Asp Leu
65 70 75 80

Val Gly Asp Thr Trp Glu Pro Ile Val Leu Asn Pro Thr Asn Val Lys
85 90 95

His Gly Ala Arg Tyr Ser Ser Ser Lys Tyr Gly Cys Lys Thr Thr Asp
100 105 110

Arg Lys Lys Gln Gln Gln Thr Tyr Pro Phe Tyr Val Cys Pro Gly His
115 120 125

Ala Pro Ser Leu Gly Pro Lys Gly Thr His Cys Gly Gly Ala Gln Asp
130 135 140

Gly Phe Cys Ala Ala Trp Gly Cys Glu Thr Thr Gly Glu Ala Trp Trp
145 150 155 160

Lys Pro Thr Ser Ser Trp Asp Tyr Ile Thr Val Lys Arg Gly Ser Ser
165 170 175

Gln Asp Asn Ser Cys Glu Gly Lys Cys Asn Pro Leu Val Leu Gln Phe

180

185

190

Thr Gln Lys Gly Arg Gln Ala Ser Trp Asp Gly Pro Lys Met Trp Gly
 195 200 205

Leu Arg Leu Tyr Arg Thr Gly Tyr Asp Pro Ile Ala Leu Phe Thr Val
 210 215 220

Ser Arg Gln Val Ser Thr Ile Thr Pro Pro Gln Ala Met Gly Pro Asn
 225 230 235 240

Leu Val Leu Pro Asp Gln Lys Pro Pro Ser Arg Gln Ser Gln Thr Gly
 245 250 255

Ser Lys Val Ala Thr Gln Arg Pro Gln Thr Asn Glu Ser Ala Pro Arg
 260 265 270

Ser Val Ala Pro Thr Thr Met Gly Pro Lys Arg Ile Gly Thr Gly Asp
 275 280 285

Arg Leu Ile Asn Leu Val Gln Gly Thr Tyr Leu Ala Leu Asn Ala Thr
 290 295 300

Asp Pro Asn Lys Thr Lys Asp Cys Trp Leu Cys Leu Val Ser Arg Pro
 305 310 315 320

Pro Tyr Tyr Glu Gly Ile Ala Ile Leu Gly Asn Tyr Ser Asn Gln Thr
 325 330 335

Asn Pro Pro Pro Ser Cys Leu Ser Thr Pro Gln His Lys Leu Thr Ile
 340 345 350

Ser Glu Val Ser Gly Gln Gly Met Cys Ile Gly Thr Val Pro Lys Thr
 355 360 365

His Gln Ala Leu Cys Asn Lys Thr Gln Gln Gly His Thr Gly Ala His
 370 375 380

Tyr Leu Ala Ala Pro Asn Gly Thr Tyr Trp Ala Cys Asn Thr Gly Leu
 385 390 395 400

Thr Pro Cys Ile Ser Met Ala Val Leu Asn Trp Thr Ser Asp Phe Cys
 405 410 415

Val Leu Ile Glu Leu Trp Pro Arg Val Thr Tyr His Gln Pro Glu Tyr
420 425 430

Val Tyr Thr His Phe Ala Lys Ala Val Arg Phe Arg Arg Glu Pro Ile
435 440 445

Ser Leu Thr Val Ala Leu Met Leu Gly Gly Leu Thr Val Gly Gly Ile
450 455 460

Ala Ala Gly Val Gly Thr Gly Thr Lys Ala Leu Leu Glu Thr Ala Gln
465 470 475 480

Phe Arg Gln Leu Gln Met Ala Met His Thr Asp Ile Gln Ala Leu Glu
485 490 495

Glu Ser Ile Ser Ala Leu Glu Lys Ser Leu Thr Ser Leu Ser Glu Val
500 505 510

Val Leu Gln Asn Arg Arg Gly Leu Asp Ile Leu Phe Leu Gln Glu Gly
515 520 525

Gly Leu Cys Ala Ala Leu Lys Glu Glu Cys Cys Phe Tyr Ala Asp His
530 535 540

Thr Gly Leu Val Arg Asp Asn Met Ala Lys Leu Arg Glu Arg Leu Lys
545 550 555 560

Gln Arg Gln Gln Leu Phe Asp Ser Gln Gln Gly Trp Phe Glu Gly Trp
565 570 575

Phe Asn Lys Ser Pro Trp Phe Thr Thr Leu Ile Ser Ser Ile Met Gly
580 585 590

Pro Leu Leu Ile Leu Leu Leu Ile Leu Leu Phe Gly Pro Cys Ile Leu
595 600 605

Asn Arg Leu Val Gln Phe Val Lys Asp Arg Ile Ser Val Val Gln Ala
610 615 620

Leu Ile Leu Thr Gln Gln Tyr Gln Gln Ile Lys Gln Tyr Asp Pro Asp
625 630 635 640

Arg Pro

<210> 4

<211> 508

<212> PRT

<213> Feline leukemia virus

<220>

<221> PEPTIDE

<222> (1)..(508)

<223> Amino acid sequence of the protein corresponding to Seq.ID2

<400> 4

Met Gly Gln Thr Ile Thr Thr Pro Leu Ser Leu Thr Leu Asn His Trp
1 5 10 15

Ser Glu Val Gln Ala Arg Ala Arg Asn Gln Gly Val Glu Val Arg Lys
20 25 30

Lys Lys Trp Ile Thr Leu Cys Glu Ala Glu Trp Val Met Met Asn Val
35 40 45

Gly Trp Pro Arg Glu Gly Thr Phe Thr Ile Asp Asn Ile Ser Gln Val
50 55 60

Glu Glu Arg Ile Phe Ala Pro Gly Pro Tyr Gly His Pro Asp Gln Ile
65 70 75 80

Pro Tyr Ile Thr Thr Trp Arg Ser Leu Ala Thr Asp Pro Pro Pro Trp
85 90 95

Val Arg Pro Phe Leu Pro Pro Pro Lys His Pro Arg Thr Asp Pro Pro
100 105 110

Glu Pro Leu Ser Pro Gln Pro Leu Ala Pro Gln Pro Ser Ser Pro His
115 120 125

Pro Val Leu Tyr Pro Val Leu Pro Lys Pro Asp Pro Pro Lys Ala Pro
130 135 140

Val Leu Pro Pro Asn Pro Ser Ser Pro Leu Ile Asp Leu Leu Thr Glu
145 150 155 160

Glu Pro Pro Pro Tyr Pro Gly Gly His Gly Pro Thr Pro Pro Ser Gly
 165 170 175

Pro Arg Thr Pro Thr Ala Ser Pro Ile Ala Ile Arg Leu Arg Glu Arg
 180 185 190

Arg Glu Asn Pro Ala Glu Lys Ser Gln Ala Leu Pro Leu Arg Glu Asp
 195 200 205

Pro Asn Asn Arg Pro Gln Tyr Trp Pro Phe Ser Ala Ser Asp Leu Tyr
 210 215 220

Asn Trp Lys Leu His Asn Pro Pro Phe Ser Gln Asp Pro Val Ala Leu
 225 230 235 240

Thr Asn Leu Ile Glu Ser Ile Leu Val Thr His Gln Pro Thr Trp Asp
 245 250 255

Asp Cys Gln Gln Leu Leu Gln Ala Leu Leu Thr Ala Glu Glu Arg Gln
 260 265 270

Arg Val Leu Leu Glu Ala Arg Lys Gln Val Pro Gly Glu Asp Gly Arg
 275 280 285

Pro Thr Gln Leu Pro Asn Val Val Asp Glu Ala Phe Pro Leu Thr Arg
 290 295 300

Pro Asn Trp Asp Phe Cys Thr Pro Ala Gly Arg Glu His Leu Arg Leu
 305 310 315 320

Tyr Arg Gln Leu Leu Leu Ala Gly Leu Arg Gly Ala Ala Arg Arg Pro
 325 330 335

Thr Asn Leu Ala Gln Val Lys Gln Val Val Gln Gly Lys Glu Glu Thr
 340 345 350

Pro Ala Ser Phe Leu Glu Arg Leu Lys Glu Ala Tyr Arg Met Tyr Thr
 355 360 365

Pro Tyr Asp Pro Glu Asp Pro Gly Gln Ala Ala Ser Val Ile Leu Ser
 370 375 380

Phe Ile Tyr Gln Ser Ser Pro Asp Ile Arg Asn Lys Leu Gln Arg Leu
385 390 395 400

Glu Gly Leu Gln Gly Phe Thr Leu Ser Asp Leu Leu Lys Glu Ala Glu
405 410 415

Lys Ile Tyr Asn Lys Arg Glu Thr Pro Glu Glu Arg Glu Glu Arg Leu
420 425 430

Trp Gln Arg Gln Glu Glu Arg Asp Lys Lys Arg His Lys Glu Met Thr
435 440 445

Lys Val Leu Ala Thr Val Val Ala Gln Asn Arg Asp Lys Asp Arg Gly
450 455 460

Glu Ser Lys Leu Gly Asp Gln Arg Lys Ile Pro Leu Gly Lys Asp Gln
465 470 475 480

Cys Ala Tyr Cys Lys Glu Lys Gly His Trp Val Arg Asp Cys Pro Lys
485 490 495

Arg Pro Arg Lys Lys Pro Ala Asn Ser Thr Leu Leu
500 505

<210> 5
<211> 1530
<212> DNA
<213> Feline leukemia virus

<220>
<221> misc_feature
<222> (1)..(1530)
<223> DNA sequence of the mutagenized "gag" gene

<400> 5
atgggccaga ccatcaccac cccctgagc ctgaccctga accactggag cgaggtgcag 60
gccagggcca ggaaccaggc cgtggaggtg aggaagaaga agtggatcac cctgtgcgag 120
gccgagtggg tgatgatgaa cgtgggctgg cccagggagg gcaccttcac catcgacaac 180
atcagccagg tggaggagag gatcttcgcc cccggcccct acggccaccc cgaccagatc 240
ccctacatca ccacctggag gagcctggcc accgaccccc cccctgggt gaggccttc 300
ctgccccccc ccaagcacc caggaccgac ccccccagc ccctgagccc ccagcccctg 360
gccccccagc ccagcgcccc cccatcagc agcctgtacc ccgtgctgcc caagcccagc 420

ccccccaag	ccccgtgct	gcccccaac	cccagcagcc	ccctgatcga	cctgctgacc	480
gaggagcccc	ccccctacc	cggcggccac	ggccccaccc	cccccagcgg	ccccaggacc	540
cccaccgcca	gccccatcg	cagcaggctg	agggagagga	gggagaaccc	cgccgagaag	600
agccaggccc	tgcccctgag	ggaggacccc	aacaacaggc	cccagtactg	gcccttcagc	660
gccagcgacc	tgtacaactg	gaagetgcac	aaccccccc	tcagccagga	ccccgtggcc	720
ctgaccaacc	tgatcgagag	catcctggtg	accaccagc	ccacctggga	cgactgccag	780
cagctgctgc	aggccctgct	gaccgccgag	gagaggcaga	gggtgctgct	ggaggccagg	840
aagcaggtgc	ccggcgagga	cggcaggccc	accagctgc	ccaacgtggt	ggacgaggcc	900
ttccccctga	ccaggcccaa	ctgggacttc	tgcaccccc	ccggcaggga	gcacctgagg	960
ctgtacaggc	agctgctgct	ggccggcctg	aggggcgcgc	ccaggaggcc	caccaacctg	1020
gcccaggtga	agcaggtggt	gcagggcaag	gaggagacac	ccgccagctt	cctggagagg	1080
ctgaaggagg	cctacaggat	gtacaccccc	tacgaccccg	aggaccccg	ccaggccacc	1140
agcgtgatcc	tgagcttcat	ctaccagagc	agccccgaca	tcaggaacaa	gctgcagagg	1200
ctggagggcc	tgcagggctt	caccctgagc	gacctgctga	aggaggccga	gaagatctac	1260
aacaagaggg	agacacccga	ggagagggag	gagaggctgt	ggcagaggca	ggaggagagg	1320
gacaagaaga	ggcacaagga	gatgaccaag	gtgctggcca	ccgtggtggc	ccagaacagg	1380
gacaaggaca	ggggcgagag	caagctgggc	gaccagagga	agatccccct	gggcaaggac	1440
cagtgcgcct	actgcaagga	gaagggccac	tgggtgaggg	actgccccaa	gaggcccagg	1500
aagaagccc	ccaacagcac	cctgctgtag				